DEPARTMENT OF DEFENSE

DoD Enterprise Architecture Reference Model

Policy, Process and Roles Recommendations for an Instruction

November 01, 2005

By

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In collaboration with the
DoD EA Congruence Community of Practice
Between October 2003 - April 2005

Department of Defense Enterprise Architecture Reference Model
Policy, Process and Roles

Recommendations for an Instruction
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ASD(NII)/DoD CIO

SUBJECT: DoD Enterprise Architecture Reference Model

References: (a) Subtitle III of Title 40, United States Code (formerly Division E of the Clinger-
Cohen Act of 1996)
(b) DoD Directive 5144.1, "Assistant Secretary of Defense for Networks and
Information Integration/DoD Chief Information Officer (ASD(NII)/DoD CIO),"
May 2, 2005
(c) Office of Management and Budget Circular No. A-130, "Management of Federal
Information Resources," Revised, (Transmittal Memorandum No. 4), November
28, 2000
(d) DoD Directive 8000.1, "Management of DoD Information Resources and
Information Technology," February 27, 2002
(e) through (k), see enclosure 1

1. UNDERLINE PURPOSE

This instruction establishes policy and assigns responsibilities for the maintenance, evolution and
use of Department of Defense (DoD) Enterprise Architecture (EA) Reference Model (RM) that
focus on improving DoD capabilities and mission outcomes consistent with references (a), (b), (c),
(d), and (e) – (m).

2. APPLICABILITY AND SCOPE

This instruction applies to:

2.1. The Office of the Secretary of Defense (OSD), the Military Departments, the Chairman of the Joint Chiefs of Staff, the Combatant Commands, the Office of the Inspector General of the Department of Defense, the Defense Agencies, the DoD Field Activities, and any other organizational entities in the Department of Defense (hereafter referred to collectively as the "DoD Components").

2.2. The Warfighting Mission Area (WMA), Business Mission Area (BMA), DoD portion of Intelligence Mission Area (DIMA), and Enterprise Information Environment (EIE) Mission Area (EIEMA).

2.3   All current and planned DoD IT investments, including National Security Systems (NSS), but excluding IT that is not part of the Global Information Grid (GIG) IT per reference (e).

2.4 All the current and planned enterprise architecture required by refines (e)-(k). that will work together in a net-centric environment, loosely coupled with the GIG enterprise architecture, which is comprised both of loosely coupled Service Oriented Architecture and more tightly coupled integrated architectures as required by the DoD Enterprise Architecture Framework (DoD AF) reference (l).

3. DEFINITIONS

Terms used in this Instruction are defined in enclosure 2.

4. POLICY

It is DoD policy that:

4.1. This policy requires that IT investment portfolios managed according to references (e) and (m) be aligned with the DoD EA RM to ensure IT investments support the Department's vision, mission, and goals; ensure efficient and effective delivery of capabilities to the warfighter; and maximize return on investment to the Enterprise. Further the performance measures established by portfolio shall be aligned with the DoD EA RM; therefore presenting the DoD EA RM as a simplified representation of the DoD EA and the portfolios therein.

4.2. Nested and integrated portfolios, sub portfolios or capabilities areas that represent common collections of related, or highly dependent, information capabilities and services organized by the Enterprise, Mission Area, and Component levels according to reference (m) shall be aligned with the DoD EA RM

4.4. The DoD EA RM shall be used as a management tool in each of the Department's portfolios for analyses to gain improved results in enterprise efficiency and effectiveness. The DoD EA RM shall be used also in the decision support systems including: the Joint Capabilities Integration and Development System (CJCSI 3170.01E, reference (f)); the Planning, Programming, Budgeting, and Execution System (DoD Directive 7045.14, reference (g)); and the

Defense Acquisition System (DoD Directive 5000.1, reference (h)). Results in efficiency gains shall be documented and posted. Mission Area leads shall ensure that DoD recommendations to gain efficiency and effectiveness are conveyed to the appropriate officials for consideration.

4.5. All authorities addressed in Section 5 of this Instruction shall participate in the management of the DoD EA RM by performing the following core functions:

4.5.1. **Submission** - Submitters suggest revisions/modifications to the reference model(s) by completing a standardized on-line form. Additionally, during this phase the Configuration Management Community of Interest (CMCI) will lead the engagement of DoD stakeholders in discussion on strategic and directional changes for the models.

4.5.2. **Evaluation** - Submissions are evaluated by the Assessment Team for Reference Model Revision (ATRMR) based on evaluation criteria. The submissions are scrubbed and recommendations are provided to the CMCI and the Architecture and Interoperability Directorate, (A&I) and representatives of the DoD Component and Business Management Modernization Program (BMMP), the body of Architects chaired by the Director, A&I, and other stakeholders for a joint review session. The joint body assesses the submissions and makes a recommendation to A&I, who intern recommends to the DoD CIO, who may seek the advice and council of the DoD CIO Executive Board. The DoD CIO approves or rejects the submissions..

4.5.3. **Revision** - Upon approval, the DoD CIO selects a process owner who convenes a team responsible for revising the reference model. The revised model is distributed to DoD Components, Mission Area Managers the DoD EA CoP, and the CMCI for review, members of the joint body and other stakeholders and final revisions are made based on feedback.
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4.5.4. **Final Approval** – Given the advice and counsel of the Director A&I, The DoD CIO reviews the final version of the reference model based on several key characteristics and either approves the reference model or returns the reference model to the process owner for further refinement. It is the DoD CIO that approves the final recommended changes for release.

4.5.5. **Rollout** – Given the advice and counsel of the Director A&I, DoD CIO accepts the final reference model and determines through staff when the model will be released, develops the communication plan, releases the model, and executes the communication plan

4.6. Governance forums shall be leveraged or established to manage the DoD EA RM in areas at the Enterprise, Mission Area, and Component levels.

4.7. DoD EA RM shall be managed in accordance with the E-Government Act (reference (i)), with focus on efforts to minimize duplication of DoD and Government-wide initiatives.

5. RESPONSIBILITIES

5.1. The Assistant Secretary of Defense for Networks and Information Integration/Department of Defense Chief Information Officer (ASD(NII)/DoD CIO) shall:

5.1.1. Establish this instruction for guiding and managing DoD EA RM based on the policies herein and references (b), (d) and (m).

5.1.2. Establish and lead a cross-Mission Area, cross-DoD Component governance forum for the DoD EA RM. This governance forum will provide strategic direction for the DoD EA RM, identify opportunities for IT investments, and resolve cross-Mission Area and cross-DoD Component issues.

5.1.3. Ensure that all Mission Area portfolio recommendations are based on architectures that comply with the GIG architecture, reference (e) and reference (j) and are aligned with the DoD EA RM.

5.1.4. Serve as the lead for the final approval authority for DoD EA RM revision and manage the DoD EA RM in accordance with this instruction and references (c) and (d) and:

5.1.4.1. Establish the DoD EA RM as a means for improving IT processes in the department and aligning architectures and enabling improved processes with new and modern IT concepts and technology such as IPv6 and Net-centricity

5.1.4.2. Issue guidance for managing the DoD EA RM and designate responsibilities for DoD EA RM configuration management.

5.1.4.3. Leverage or establish a governance forum to oversee DoD EA RM activities.

5.1.4.4. Present recommendations to the proper officials in the Department's decision support systems for consideration resulting from DoD EA RM analysis.

5.1.4.5. Participate in the cross-Mission Area governance forum for the Enterprise portfolio using DoD EA RM as a basis for comparison.

5.1.4.6. Participate in the WMA, BMA, and DIMA governance forums ensuring decisions are presented in abstract according to the DoD EA RM ground rules (Enclosure 3).

5.1.4.7. Appoint process owners as needed to maintain DoD EA RMs.

5.1.4.8. Maintain the alignment of the DoD EA RM with Federal Enterprise Architecture (FEA) RM according to the alignment schedule necessary to keep the two processes in sync in line with the planning programming budget and execution process.

5.2.   The <u>Under Secretary of Defense for Acquisition, Technology, and Logistics (USD(AT&L))</u> shall:

5.2.1.   Serve as the lead and manage the DoD EA BRM maintenance and evolution, in coordination with the ASD(NII)/DOD(CIO), Under Secretary of Defense (Comptroller), and the Under Secretary of Defense for Personnel and Readiness, for the Business Mission Area (BMA) based on the policies herein and references (d), (e), and (k):

5.2.1.1.   Establish the BMA portfolio to include the he various lines of business and sub functions in the DoD EA BRM.

5.2.1.2.   Issue guidance for managing the BMA portfolio using the DoD EA BRM and designate responsibilities for DoD EA BRM use in BMA portfolio management.

5.2.1.3.   Leverage or establish a governance forum to oversee the BMA portfolio activities in accordance with Section 2222 of Title 10, United States Code (reference (k)), ensuring DoD EA BRM is used for categorizing and analyzing the portfolio for efficient and effective contribution to the DoD enterprise mission and strategic objectives (reference (n) and (o).

5.2.1.4.   Utilize the DoD EA BRM to inform the BMA portfolio recommendations that are presented to proper officials in the Department's decision support systems for consideration according to reference (m).

5.2.1.5.   Align with the DoD EA RM the results of participating in the cross-Mission Area governance forum for the Enterprise portfolio according to reference (m).

5.2.1.6   Participate in the WMA, DIMA, and EIEMA Area governance forums ensuring decisions are presented in abstract according to the DoD EA RM ground rules.

5.2.2.   Align with the DoD EA RM the results, as called for in reference (m), of participating in BMA governance forums for identifying commonality in BMA portfolio management processes and providing solutions that are in the best interest of the Enterprise.

5.2.3.   Based on this instruction, align with the DoD EA RM, the results according to reference (m) to review, approve, and oversee the planning, design, acquisition, deployment, operation, maintenance, and modernization of the BMA portfolio of IT investments to include process improvement with the primary purpose of improving acquisition, logistics, or installations and environment activities consistent with BMA guidance.

5.2.4.   Ensure the policies herein are incorporated into and integrated with the policies and procedures of the Global Information Grid Architecture (reference (a-k)) and aligned with the FEA RM.

5.2.5.   In coordination with the ASD(NII)/DoD CIO, ensure the policies herein are incorporated into the Defense Acquisition University's education and training curriculum.

5.3.   The <u>Under Secretary of Defense (Comptroller)/Chief Financial Officer</u> shall, in accordance with the policies herein and reference (k):

   5.3.1   Document in the DoD EA RM, the results of identifying commonality in BMA portfolio management processes and providing solutions that are in the best interest of the Enterprise are, as required by reference (m).

   5.3.2.   Document in the DoD EA RM the results from ensuring the review, approval, and oversight from the planning, design, acquisition, deployment, operation, maintenance, and modernization of the BMA portfolio of IT investments with the primary purpose of improving budgeting, financial management, or strategic planning activities consistent with BMA guidance as required by reference (m) and reference (k).

   5.3.3.   Ensure the policies herein are incorporated into and integrated with the policies and procedures of the Planning, Programming, Budgeting, and Execution System (reference (g)).

5.4.   The <u>Under Secretary of Defense for Personnel and Readiness</u> shall, in accordance with policies herein and reference (k):

   5.4.1.   Participate in BMA governance forums with the goal of identifying commonality in BMA portfolio management processes and providing solutions that are in the best interest of DoD, documenting the common solutions in the DoD EA RM.

   5.4.2.   Review, approve, and oversee the planning, design, acquisition, deployment, operation, maintenance, and modernization of the BMA portfolio of IT investments with the primary purpose of improving human resource management activities consistent with BMA guidance, this instruction, and reference (k).

5.5.   The <u>Under Secretary of Defense for Intelligence</u> shall serve as the lead and manage the portfolio, in coordination with the Director of National Intelligence and the ASD(NII)/DoD CIO, for the DoD portion of Intelligence Mission Area (DIMA) based on the policies herein and references (d) and (e):

   5.5.1.   Establish the DIMA Area portfolio.

   5.5.2.   Issue guidance for managing the DIMA portfolio and designate responsibilities for DIMA portfolio management to include documenting IT investments to include architecture according to guidance in this instruction with regard to the DoD EA RM..

   5.5.3.   Leverage or establish a governance forum to oversee the DIMA portfolio activities and ensure they are properly and consistently documented according to this instruction.

   5.5.4.   Present the DIMA portfolio recommendations to the proper officials in Department's decision support systems for consideration using the DoD EA RM as a framework for simplifying the presentation of complex IT and architecture information..

5.5.5.   Participate in the cross-Mission Area governance forum for the Enterprise portfolio to ensure efficiency and effectiveness can be gained from such governance.

5.5.6.   Participate in the WMA, BMA, and EIEMA governance forums to eliminate redundancy, and improve process and better align IT with the mission of the DoD Enterprise.

5.6.   The Director of Program Analysis and Evaluation shall, in accordance with this instruction and references (c), (g) and (m) review and issue programming and budgeting guidance that consider Mission Area and Cross Mission-Area recommendations to initiate, continue, modify, or terminate funding for IT investments both with in the mission area and across mission areas.

5.7.   The Chairman of the Joint Chiefs of Staff shall, in accordance with the policies herein and references (c), (d) and (m):

5.7.1.   Serve as the lead for the Warfighting Mission Area (WMA) and manage the portfolio documenting decisions in the DoD EA RM per this instruction.

5.7.1.1.   Use the DoD EA RM for cross mission area analysis to reduce redundancy and gain efficiency and effectiveness once the WMA portfolio is established per reference (m).

5.7.1.2.   Designate responsibilities for maintaining the WMA in accordance with the policies of this instruction.

5.7.1.3.   Leverage or establish a governance forum to oversee WMA IT portfolio activities to include alignment with the DoD EA RM activities.

5.7.1.4.   Document WMA portfolio decisions as part of the DoD EA RM that result from the WMA portfolio recommendations to the proper officials in the Department's decision support systems.

5.7.1.5.   Participate in the cross-Mission Area governance forum for the Enterprise portfolio and document those decisions with respect to the WMA in the DoD EA RM..

5.7.1.6.   Participate in the Business, DoD portion of Intelligence, and EIE Mission Area governance forums seeking opportunities to gain cross mission efficiencies documenting the results in the DoD EA RM.

5.7.2.   Ensure the policies herein are incorporated into and integrated with the policies and procedures of the Joint Capabilities Integration and Development System (reference (g)).

5.7.3   In coordination with the ASD(NII)/DoD CIO, ensure the policies herein are incorporated into the curriculum of the National Defense University's Information Resources Management College.

5.8.   The <u>Heads of the DoD Components</u>, in accordance with the policies herein and references (c), (d), (k) and (m), shall:

5.8.1.   Establish the Component portfolio so that IT investments align to Mission Area, and sub portfolio or capability area portfolios as appropriate ensuring proper alignment with the DoD EA RM.

5.8.2.   Issue guidance and designate guidance for managing the Component aspects of the DoD EA RM according to DoD EA RM Maintenance process

5.8.3.   Leverage or establish a governance forum to oversee Component reference model activities.

5.8.4.   Manage the Component aspects of the DoD EA RM according to the policy and process of this instruction.

5.8.5.   Ensure that Component IT investments are consistent with Mission Area, sub portfolio, or capability area portfolio guidance and are aligned properly with the DoD EA RM.

5.8.6.   Participate in Mission Area governance forums with the goal of identifying common problems in management processes and providing solutions that are in the best interest of the Enterprise.

5.9.   The <u>Chief Information Officers of the DoD Components</u> shall, in addition to their responsibilities identified in references (a), (b), (d), (m) and in accordance with the policies herein:

5.9.1.   Support DoD EA RM activities.

5.9.2.   Ensure and provide verification to the leads of the Mission Areas and the ASD(NII)/DoD CIO that Component IT investments are consistent with Mission Area, sub portfolio, or capability area portfolio guidance and are properly aligned with the DoD EA RM. Verification includes ensuring that Component resources are applied to Mission Area, and sub portfolio or capability area recommendations that have been approved through the Department's decision support systems consistent with subparagraph 4.4.

5.9.3.   Identify portfolio issues to the relevant governance forum(s).

5.10. The Deputy Secretary of Defense shall, perform the functions of the mission area managers as identified above for any business functions, activities or sub-functions until they may be delegated to the responsible Mission Area Manager. Until delegated all responsibilities identified in references (a), (b), (d), (m) and in accordance with the policies herein will apply.

6. <u>EFFECTIVE DATE</u>:

These policy recommendations become effective immediately upon approval.

** ADD SIGNATURE BLOCK **
DoD Chief Information Officer

Enclosures – 3
    E1. References, continued
    E2. Definitions
    E3. Ground Rules

E1. ENCLOSURE 1

REFERENCES, continued

(e) DoD Directive 8100.1, "Global Information Grid (GIG) Overarching Policy," September 19, 2002
(f) Chairman of the Joint Chiefs of Staff Instruction 3170.01E, "Joint Capabilities Integration and Development System," May 11, 2005
(g) DoD Directive 7045.14, "The Planning, Programming, Budgeting, and Execution System (PPBE)," May 22, 1984, Certified Current as of November 21, 2003
(h) DoD Directive 5000.1, "The Defense Acquisition System," May 12, 2003
(i) E-Government Act of 2002 (Public Law 107-347), December 17, 2002
(j) DoD Directive 8500.1, "Information Assurance (IA)," October 24, 2002
(k) Section 2222 of title 10, United States Code
(l) DoD Architecture Framework, Volume 1, xyz date
(m) Information Technology Portfolio Management, 8115.01, October 10, 2005
(n) Quadrennial Defense Review, Current Version
(o) National Military Strategy, Current Version

E2. ENCLOSURE 2

DEFINITIONS

E2.1. Enterprise. Is a recursive term and can refer to International, Federal, National, other federal entities to include to the Department of Defense, and all of its organizational entities and cross government and entity joint endeavors.

E2.1.1. Federal Enterprise Architecture. Federal Enterprise Architecture (FEA), a business-based framework for government-wide improvement. The FEA consists of 5 Reference Models, the Performance, Business, the Service Component, Data and Technical Reference Models.

E2.1.2. DoD Enterprise Architecture Reference Model. The DoD EA RM is a set of five reference models that mirror the FEA RMs and provide a structure for aligning Mission Area information about the business, components, data and technology of the enterprise.

E2.1.3. DoD EA RM Maintenance Process. This is the process by which the department keeps the DoD EA RM current and aligned with the FEA RM.

E.2.1.4. Information Technology (IT) Portfolio. A grouping of IT investments by capability to accomplish a specific functional goal, objective, or mission outcome.

E.2.1.5. Mission Area. A defined area of responsibility with functions and processes that contribute to mission accomplishment.

E.2.1.6. Portfolio Management. The management of selected groupings of IT investments using strategic planning, architectures, and outcome-based performance measures to achieve a mission capability.

E3. ENCLOSURE 3

DoD EA RM GROUND RULES

1. Mission Area Managers and DoD Components in collaboration are responsible for keeping definitions and mappings to the FEA RM current, documenting changes no less than 60 days after the decisions made.
2. Cross mission area analysis that results in agreement to new definitions and terminology that result in agreed upon change in the Mission areas must be documented no less than 60 days after agreement.
3. Proposed changes to the taxonomy and vocabulary must be approved according to the DoD EA RM Maintenance process.
4. Taxonomy and vocabulary will be maintained centrally according to the DoD EA RM Maintenance Process but implemented decentrally and changed according to the DoD EA RM Maintenance Process.
5. IT investments will be aligned to the DoD EA RM Taxonomy and vocabulary
6. DoD Architecture indicatives will be aligned to the DoD EA RM Taxonomy and vocabulary
7. IT investments and Architectures will be managed decentrally but organized by the DoD EA Taxonomy and Vocabulary
8. Federated model for reference model maintenance will be implemented decentrally according to a centralized Taxonomy and vocabulary managed by the DoD CIO and the DoD EA RM Maintenance Process.